



THE UNIVERSITY *of* EDINBURGH

## Edinburgh Research Explorer

### **We are failing to improve the evidence base for “Exercise Referral”**

**Citation for published version:**

Hanson, CL, Oliver, EJ, Dodd- Reynolds, CJ & Kelly, P 2019, 'We are failing to improve the evidence base for “Exercise Referral”: How a physical activity referral scheme taxonomy can help', *British Journal of Sports Medicine*. <https://doi.org/10.1136/bjsports-2019-101485>

**Digital Object Identifier (DOI):**

[10.1136/bjsports-2019-101485](https://doi.org/10.1136/bjsports-2019-101485)

**Link:**

[Link to publication record in Edinburgh Research Explorer](#)

**Document Version:**

Peer reviewed version

**Published In:**

British Journal of Sports Medicine

**Publisher Rights Statement:**

This article has been accepted for publication in British Journal of Sports Medicine, 2019 following peer review, and the Version of Record can be accessed online at <http://dx.doi.org/10.1136/bjsports-2019-101485>

**General rights**

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

**Take down policy**

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact [openaccess@ed.ac.uk](mailto:openaccess@ed.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.



# **We are failing to improve the evidence-base for “Exercise Referral”: How a Physical Activity Referral Scheme Taxonomy can help**

Coral L Hanson <sup>1</sup>, (corresponding author), Emily J Oliver <sup>2</sup>, Caroline J Dodd-Reynolds <sup>2</sup>, Paul Kelly <sup>3</sup>

<sup>1</sup> School of Health and Social Care, Edinburgh Napier University, Sighthill Campus, Edinburgh, EH11 4DN, UK. Email: c.hanson@napier.ac.uk Tel: 0131 455 3457

<sup>2</sup> Department of Sport and Exercise Sciences, Durham University, Durham, UK.

<sup>3</sup> Physical Activity for Health Research Centre, Institute for Sport, Physical Education and Health Sciences, University of Edinburgh, Edinburgh, UK

Word count: 797

Key Words: Public Health, Primary Care, Exercise Rehabilitation, Physical Activity, Evaluation

## **BACKGROUND**

Increasing physical activity (PA) is a global public health priority.[1] For decades, exercise referral schemes (ERS) have been a popular way for healthcare professionals in primary and secondary care to help patients increase their PA.

Delivery of ERS varies widely, with the construction of an evidence base informing 'what works best' limited by a lack of understanding about what individual schemes deliver and how.[2] Between-scheme analyses are extremely challenging due to varying quality of reporting (e.g., of scheme delivery components and processes) and evaluations.[3,4] As a consequence, overviews of ERS evidence[5,6] are flawed by combining heterogeneous interventions (e.g., falls prevention via physiotherapist referral and hypertension management via GP referral) and datasets.

Collectively, the underwhelming findings of such overviews lead to concerns over commissioning ERS, and the inability of national policy and best practice guidelines to recommend a 'gold standard' structure, or even comment on "what good looks like".[5] We do not know whether local tailoring of ERS is more effective and efficient than a standardised approach.

To advance knowledge and practice about ERS, we therefore propose a universal classification taxonomy, grounded in practice-based experience and theory. We believe this will help appropriately identify meaningfully different ERS classifications, leading to improvements in the interpretation and understanding of the evidence base for policy makers and practitioners.

### **Is the term Exercise Referral Scheme outdated?**

As traditionally defined, ERS contain four essential components: (i) an assessment involving a healthcare professional to determine that someone who has a health condition or other factors that put them at risk of ill-health, is sedentary or inactive, (ii) referral by this professional to a PA specialist or service, (iii) a personal needs

assessment by the specialist or service and (iv) an opportunity to participate in a PA programme.[2,7,8]

This definition now fails to represent a myriad of innovations in both evidence-informed models, and contemporary practices, which support PA uptake. We suggest that ‘physical activity referral scheme’ more appropriately describes the range of interventions offered. Specific examples include entry routes via self-referral or from other professionals (e.g., health trainers) and group-based needs assessments. Our taxonomy therefore encompasses all PA schemes that:

- (a) have the primary aim of increasing physical activity,
- (b) have a formalised referral process,
- (c) are provided for individuals who are inactive/sedentary, and/or have *or are at risk of* a health condition.

These inclusion criteria enable us to usefully classify and compare traditional ERS alongside rapidly emerging innovations as described above. We acknowledge that inactive but otherwise healthy individuals attend schemes, despite current recommendations that ERS are only for those with, or at risk of, health conditions.[2] We exclude therapeutic ERS provided by health practitioners in a clinical environment (e.g., physiotherapy-based rehabilitation in hospitals), general signposting to PA opportunities or social prescribing where increasing PA is not the direct service aim.

Thus, the first distinction the taxonomy requires the user to make is between “Traditional ERS” (think classic assessment-based referral from a GP to a supervised gym session) and “non-traditional PA referral” (think new trends for social prescribing, self-referral and digital interventions).

## **THE PHYSICAL ACTIVITY REFERRAL SCHEME TAXONOMY**

Our proposed taxonomy operates at three levels:

**Level 1: Classification.** This high-level classification allows for the identification of scheme sub-categories for study and comparison (Figure 1). It details whether a scheme is traditional or non-traditional, who the provider is, whom it is for and activities offered.

INSERT Figure 1. Physical Activity Referral Scheme Classification Framework

**Level 2: Characteristics.** This level builds understanding by creating a picture of “what good looks like”. It includes details about commissioning, funding, behaviour change theory, staff qualifications/structures, referral and scheme processes and exit routes.

**Level 3: Participant measures.** This level builds understanding about the availability of participant and evaluation data. It includes details of demographics, number of referrals, uptake, attendance and adherence, and measures of change.

We present all components in a “Proto-Reporting Checklist” (supplementary file 1).

## **HOW TO USE THE PHYSICAL ACTIVITY REFERRAL SCHEME TAXONOMY AND NEXT STEPS**

We propose using the taxonomy as a reporting checklist in the practice-based and academic literature, a classification system for evidence reviews of delivery and effectiveness, and an audit and monitoring tool for commissioners and providers to capture service delivery.

In terms of next steps, we invite comment, critique and engagement from the policy, practice and academic sectors. To this end, we are delivering practitioner and expert consensus events for late 2019. We are presenting this as an idea, not the finished

product, and are keen to seek consensus on what factors are appropriate, what needs changing, and what needs adding. We believe that an agreed framework will benefit implementation of physical activity referral schemes internationally, and ultimately benefit population health. The next step is to test the utility of the taxonomy to meaningfully classify reach, uptake, efficacy (or effectiveness) of the different scheme types.

## References

1. Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2018). Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1·9 million participants. *Lancet Global Health*, 6(10), e1077-e1086. doi:10.1016/S2214-109X(18)30357-7.
2. National Institute for Health and Care Excellence. *Physical activity: exercise referral schemes*. National Institute for Health and Care Excellence, 2014. <https://www.nice.org.uk/guidance/ph54/resources/physical-activity-exercise-referral-schemes-pdf-1996418406085>. (Accessed 14 Aug 2019).
3. Oliver EJ, Hanson CL, Lindsey IA, Dodd-Reynolds CJ. Exercise on referral: evidence and complexity at the nexus of public health and sport policy. *International Journal of Sport Policy and Politics* 2016;8:731–6.
4. Pakraven A and Jones A. *Exercise Referral Schemes in Primary Care: Where does Sport and Exercise Medicine Stand?* Blog, British Journal of Sports Medicine. <https://blogs.bmj.com/bjsm/2014/03/16/exercise-referral-schemes-in-primary-care-where-does-sport-and-exercise-medicine-stand/>. (Accessed 24 Oct 2019).
5. Campbell F, Holmes M, Everson-Hock E, Davis S, Buckley Woods H, Anokye N, et al. A systematic review and economic evaluation of exercise referral schemes in primary care: a short report. *Health Technol Assess* 2015;19(60):1-87.
6. Pavey TG, Taylor AH, Fox KR, Hillsdon M, Anokye N, Campbell JL, et al. Effect of exercise referral schemes in primary care on physical activity and improving health outcomes: systematic review and meta-analysis. *BMJ* 2011;343.

7. British Heart Foundation National Centre for Physical Activity and Health. A Tool Kit for the Design, Implementation & Evaluation of Exercise Referral Schemes. British Heart Foundation National Centre for Physical Activity and Health, 2010. <http://www.ncsem-em.org.uk/resources/exercise-referral-toolkit/>. (Accessed 14 Aug 2019).
8. Department of Health. Exercise referral systems: A national quality assurance framework. Department of Health. 2001. [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_4009671](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4009671). (Accessed 14 Aug 2019).